In The Claims

Please cancel claim 11, amend claims 8-10 and 12-16, and add new claims 17-20 as follows:

1. (Withdrawn) A head for recording/reading optical data, comprising:

a silicon substrate used as a holder;

a silicon deposition layer one end of which is fixed to said silicon substrate, in which a plurality of apertures are formed; and

a thin metal film formed in a probe shape in said silicon deposition layer at the bottom of said aperture,

wherein a non-linear material is buried within said aperture.

2. (Withdrawn) A head for recording/reading optical data, comprising:

a silicon substrate used as a holder;

a silicon layer one end of which is fixed to said silicon substrate, in which a plurality of apertures are formed, wherein the bottom of said aperture is projected in a probe shape; and

a thin metal film formed on said silicon layer including said aperture,

wherein a non-linear material is buried within said aperture.

3. (Withdrawn) A head for recording/reading optical data as claimed in Claim 1 or 2, wherein said aperture has a reverse-trapezoid shape.

4. (Withdrawn) A head for recording/reading optical data as claimed in Claim 3, wherein the length of a lower base of said aperture is 10 ~ 100nm.

5. (Withdrawn) A head for recording/reading optical data as claimed in Claim 1 or 2, wherein said non-linear material includes a self-focusing phenomenon and is made of a material a third non-linear coefficient of which is great.

6. (Withdrawn) A head for recording/reading optical data as claimed in Claim 1 or 2, wherein said non-linear material is formed as As^2S^3.

7. (Withdrawn) A head for recording/reading optical data as claimed in Claim 1 or 2, wherein said thin metal film is made of aluminum.

8. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data, comprising the steps of:

providing a silicon substrate on which a silicon oxide film and a silicon deposition layer are stacked;

etching the bottom of said silicon substrate by a given depth to form an opening;

forming an aperture having a given slant angle in said silicon deposition layer located on said opening;

etching a portion of said silicon oxide film, the portion exposed through the opening;

forming a dielectric layer on said silicon deposition layer including said aperture;

removing an exposed portion of the bottom of said silicon deposition layer by a given thickness to expose a portion of said dielectric layer;

forming a ~~prove~~ probe on the exposed portion of said dielectric layer and ~~in~~ said silicon deposition layer ~~around said aperture~~ exposed through said opening; and

burying said aperture with a non-linear material.

9. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data as claimed in Claim 8, wherein the silicon substrate remaining in said opening is completely removed in the process of forming said aperture.

10. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data as claimed in Claim 8, wherein said aperture has a reverse-trapezoid shape in which the length of ~~it's~~ a lower plane of said aperture is 10 ~ 100nm and the length of ~~its~~ an upper ~~base~~ plane of said aperture is 1 μm ~ 100 μm.

11. (Cancelled)

12. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data as claimed in Claim 8, wherein said probe is made of a thin metal film ~~and is formed by the steps of:~~

~~etching said silicon deposition layer around said aperture exposed through said opening by a given depth, and~~

~~forming a thin metal film of a probe shape in said silicon deposition layer exposed through said opening~~.

13. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data as claimed in Claim 8, wherein said non-linear material induces a self-focusing phenomenon and is made of a material of a third non-linear coefficient ~~of which is great~~.

14. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data as claimed in Claim 8, wherein said non-linear material is made of As_2S_3 and is buried at the temperature of about 120°C.

15. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data as claimed in Claim 8, further comprising a step of forming a thin metal film on said ~~silicon deposition layer~~ dielectric layer including said aperture after said probe is formed.

16. (Currently Amended) A method of manufacturing a head for ~~recording/reading~~ recording and reading optical data as claimed in Claim 12 or ~~14~~ 15, wherein said thin metal film is made of aluminum.

17. (New) A method of manufacturing a head for recording and reading optical data, comprising the steps of:

providing a silicon substrate on which a silicon oxide film and a silicon deposition layer are stacked;

etching the bottom of said silicon substrate by a given depth to form an opening;

forming an aperture having a given slant angle in said silicon deposition layer located on said opening;

etching a portion of said silicon oxide film, the portion exposed through the opening;

forming a dielectric layer on said silicon deposition layer including said aperture;

removing a portion of the bottom of said silicon deposition layer to form a probe under said dielectric layer of said aperture, said probe having the same slant angle as that of said aperture; and

burying said aperture with a non-linear material.

18. (New) A method of manufacturing a head for recording and reading optical data as claimed in Claim 17, further comprising a step of forming a thin metal film on said dielectric layer including said aperture after said probe is formed.

19. (New) A method of manufacturing a head for recording and reading optical data as claimed in Claim 17, wherein the silicon substrate remaining in said opening is completely removed in the process of forming said aperture.

20. (New) A method of manufacturing a head for recording and reading optical data as claimed in Claim 17, wherein said aperture has a reverse-trapezoid shape in which the length of a lower plane of said aperture is 10 ~ 100nm and the length of an upper plane of said aperture is 1 μm ~ 100 μm.